**Factors Affecting Plant Growth Laboratory**

In this investigation of various factors that affect the growth of a plant, you and your partner will design and conduct an experiment that will examine the effects of one variable on the growth rate of seedlings. You will grow your plants in standard potting soil, under artificial light in the grow station at the back of the classroom. You must achieve a grade of at least 70% on the pre-laboratory quiz before starting your procedures. You must hand in the pre-lab section two days before you conduct your investigation and a full lab report 3 days after the experiment is finished. Remember for each experiment there must be a control.

**Pre-laboratory Information**

The factor we are studying is:

The dependent variable is:

The independent variable is:

The 4 treatments will be:

The independent variable will be measured by:

My controlled variables will be (at least 3):

I will control my variables by:

My hypothesis is (predict how your independent variable will affect your dependent variable. Back up your prediction with facts from at least 3 reliable sources):

References from sources used in hypothesis:

List of materials:

Method:

The data table will look like this (include headings for all data including units):

The graph will be labelled like this:

**Factors That Affect Plant Growth Laboratory**

Just like humans require optimal nutritional, environmental and various other conditions for well-being and growth, plants also require certain optimal conditions for growth. For this laboratory you and a partner will be examining how altering one condition can affect plant growth (macronutrients, micronutrients, water, light, temperature, relative humidity, carbon dioxide, oxygen, soil, to name a few). Once you have submitted and received feedback on your pre-lab work, you may begin constructing your experiment. We will have one period devoted to this to ensure everything is set up properly. For the next 2 weeks for the first 20 minutes of class you will have time to take measurements and note any observations for your experimental records. You will have 3 days from the last day of the experiment to hand in your final written laboratory report for grading. You may wish to replicate the following chart for your observations or create an organized chart of your own.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 |
| Plant Height (cm) |  |  |  |  |  |  |
| Observations |  |  |  |  |  |  |
|  | | | | | | |
|  | Day 7 | Day 8 | Day 9 | Day 10 | Day 11 | Day 12 |
| Plant Height (cm) |  |  |  |  |  |  |
| Observations |  |  |  |  |  |  |

Note that I will be coming in on the Saturday/Sunday during the experiment to make measurements to add to your data.